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| 09/711,590 | 11/13/2000 | Chang-Hoi Koo | 678-554 (P9608) | 7202 |

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| EXAMINER | |
|---|---|
| MILORD, MARCEAU | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2682 | |

DATE MAILED: 07/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/711,590 | KOO, CHANG-HOI | |
| | Examiner | Art Unit | |
| | Marceau Milord | 2682 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *13 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Solondz (US Patent No 6192248 B1) in view of Virtanen (US Patent No 6249681 B1) and Eriksson et al (US Patent No 6061559)

Regarding claims 1-2, Solondz discloses a method of processing a call set-lap request from a second mobile station (120 or 122 of fig. 1) in a base station of a mobile communication system (fig. 1), where the base station (108, 124, 134 of fig. 1) is servicing a call in progress of a first mobile station (106 of fig. 1; col. 1, lines 49-67), comprising the steps of determining a service level of a call requested by the call set-up request, if the base station does not have enough available resources to accommodate the requested call (col. 3, line 49- col. 4, line 67); and if the service level of the requested call is higher than a service level of the call in progress

of the first mobile station (col. 5, lines 6-65); accepting the call set-up request; and servicing the requested call of the second mobile station (col. 7, line 18- col. 8, line 37).

However, Solondz does not specifically disclose the steps of suspending the call in progress of the first mobile station; and resuming the suspended call of the first mobile station if the base station secures enough resources to resume the suspended call of the first mobile station.

On the other hand, Virtanen, from the same field of endeavor, discloses a method and apparatus for re-establishing an interrupted data packet call on a channel between two transceiving devices in a telecommunications system. This method allows a data packet call to be re-established in a rapid manner while using less signaling resources required to establish a call from an initial state. Call re-establishment is accomplished by using a call re-establishment message that includes the necessary information to re-establish the call. After receiving the re-establishment request message, the base station uses the information included in the request message to determine the identity of the mobile station and to retrieve the saved information that is necessary for call re-establishment, and re-establishes the physical connection between the mobile station and base station (col. 3, line 40- col. 5, line 15; col. 8, line 33- col. 10, line 62).

Ericksson et al also discloses a method and system used in a mobile telecommunications network for reconnecting at least one of a plurality of low priority calls that were disconnected due to preemption by high priority calls. The system includes a controller coupled to the queue for determining whether a traffic was located within a predetermined amount of time for use by the low priority call. If the traffic channel was located within the predetermined amount of time, then the controller will remove the low priority from the queue and automatically reconnect the disconnected call using the located traffic channel (col. 2, lines 26- 56; col. 4, line 8- col. 5, line

30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Ericksson to the modified system of Virtanen and Solondz in order to reconnect automatically a disconnected data transmission call without interrupting a data transmission call.

Regarding claim 3, Solondz as modified discloses a method of processing a call set-lap request from a second mobile station (120 or 122 of fig. 1) in a base station of a mobile communication system (fig. 1), wherein the service level of the requested call is determined by considering both a mobile station priority of the second mobile station and a service priority of the requested call of the second mobile station (col. 5, line 6- col. 6, line 54).

Regarding claim 4, Solondz as modified discloses a method of processing a call set-lap request from a second mobile station (120 or 122 of fig. 1) in a base station of a mobile communication system (fig. 1), wherein parameters for establishing a physical channel and service option information are stored in the first mobile station, said service option information being indicative of the characteristics of the application service of the suspended call (col. 7, lines 7- 67).

Regarding claim 5, Solondz discloses a call processing method in a mobile communication system (fig. 1), where the mobile communication system has a first mobile station (106 of fig. 1) with a call in progress, a second mobile station (120 or 122 of fig. 1), and a base station (108, 124, 134 of fig. 1) that serves both the first and second mobile stations (106 of fig. 1 and 120 or 122 of fig. 1; col. 1, lines 49-67), comprising the steps of receiving a call set-up request from a second mobile station (120 or 122 of fig. 1); determining a service level of a call requested by the call set-up request, if the base station does not have enough available resources

to accommodate the requested call (col. 3, line 49- col. 4, line 67); and if the service level of the requested call is higher than a service level of the call in progress of the first mobile station (col. 5, lines 6-65); accepting, by the base; station, the requested call set-up; servicing, by the base station, the requested call of second mobile station (col. 7, line 18- col. 8, line 37).

However, Solondz does not specifically disclose the steps of transmitting, by the base station, a waiting message to the first mobile station; discontinuing, by the first mobile station, data transmission in response to the waiting message; and transmitting, by the base station, a reestablishment message to the first mobile station, if the base station secures enough resources to resume the suspended call; and resuming, by the first mobile station, data transmission in response to the reestablishment message.

On the other hand, Virtanen, from the same field of endeavor, discloses a method and apparatus for re-establishing an interrupted data packet call on a channel between two transceiving devices in a telecommunications system. This method allows a data packet call to be re-established in a rapid manner while using less signaling resources required to establish a call from an initial state. Call re-establishment is accomplished by using a call re-establishment message that includes the necessary information to re-establish the call. After receiving the re-establishment request message, the base station uses the information included in the request message to determine the identity of the mobile station and to retrieve the saved information that is necessary for call re-establishment, and re-establishes the physical connection between the mobile station and base station (col. 3, line 40- col. 5, line 15; col. 8, line 33- col. 10, line 62).

Ericksson et al also discloses a method and system used in a mobile telecommunications network for reconnecting at least one of a plurality of low priority calls that were disconnected

due to preemption by high priority calls. The system includes a controller coupled to the queue for determining whether a traffic was located within a predetermined amount of time for use by the low priority call. If the traffic channel was located within the predetermined amount of time, then the controller will remove the low priority from the queue and automatically reconnect the disconnected call using the located traffic channel (col. 2, lines 26- 56; col. 4, line 8- col. 5, line 30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Ericksson to the modified system of Virtanen and Solondz in order to reconnect automatically a disconnected data transmission call without interrupting a data transmission call.

Regarding claim 6, Solondz as modified discloses a call processing method in a mobile communication system (fig. 1), wherein the determining a service level step comprises: considering a mobile station priority of the second mobile station and a service priority of the requested call of the second mobile station (col. 5, line 6- col. 6, line 54).

Regarding claim 7, Solondz as modified discloses a call processing method in a mobile communication system (fig. 1), wherein parameters for establishing a physical channel and service option information are stored in the first mobile station, said service option information being indicative of the characteristics of the application service of the suspended call (col. 7, lines 7- 67).

Claims 8-9 contain similar limitations addressed in claim 5; and therefore are rejected under a similar rationale.

Regarding claims 10 and 13, Solondz discloses a call processing method in a mobile communication system (fig. 1) having a first mobile station (106 of fig. 1) with a call in progress,

a second mobile station (120 or 122 of fig. 1), and a base station (108, 124, 134 of fig. 1) that serves the first and second mobile stations (106 of fig. 1 and 120 or 122 of fig. 1; col. 1, lines 49-67), comprising the steps of receiving a call set-up request from a second mobile station; determining a service level of a call requested by the call set-up request, if the base station does not have enough available resources to accommodate the requested call (col. 3, line 49- col. 4, line 67); and if the service level of the requested call is higher than a service level of the call in progress of the first mobile station (col. 5, lines 6-65); accepting, by the base station, the requested call set-up; servicing, by the base station, the requested call of second mobile station (col. 7, line 18- col. 8, line 37).

However, Solondz does not specifically disclose the steps of transmitting, by the base station, a waiting message to the first mobile station; discontinuing, by the first mobile station, data transmission in response to the waiting message; and resuming, by the first mobile station, data transmission after a predetermined time period.

On the other hand, Virtanen, from the same field of endeavor, discloses a method and apparatus for re-establishing an interrupted data packet call on a channel between two transceiving devices in a telecommunications system. This method allows a data packet call to be re-established in a rapid manner while using less signaling resources required to establish a call from an initial state. Call re-establishment is accomplished by using a call re-establishment message that includes the necessary information to re-establish the call. After receiving the re-establishment request message, the base station uses the information included in the request message to determine the identity of the mobile station and to retrieve the saved information that

is necessary for call re-establishment, and re-establishes the physical connection between the mobile station and base station (col. 3, line 40- col. 5, line 15; col. 8, line 33- col. 10, line 62).

Ericksson et al also discloses a method and system used in a mobile telecommunications network for reconnecting at least one of a plurality of low priority calls that were disconnected due to preemption by high priority calls. The system includes a controller coupled to the queue for determining whether a traffic was located within a predetermined amount of time for use by the low priority call. If the traffic channel was located within the predetermined amount of time, then the controller will remove the low priority from the queue and automatically reconnect the disconnected call using the located traffic channel (col. 2, lines 26- 56; col. 4, line 8- col. 5, line 30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Ericksson to the modified system of Virtanen and Solondz in order to reconnect automatically a disconnected data transmission call without interrupting a data transmission call.

Regarding claim 11, Solondz as modified discloses a call processing method in a mobile communication system (fig. 1) having a first mobile station (106 of fig. 1) with a call in progress, wherein the determining a service level step comprises: considering a mobile station priority of the second mobile station and a service priority of the requested call of the second mobile station (col. 5, line 6- col. 6, line 54).

Regarding claim 12, Solondz as modified discloses a call processing method in a mobile communication system (fig. 1) having a first mobile station (106 of fig. 1) with a call in progress, wherein parameters for establishing a physical channel and service option information are stored

in the first mobile station, said service option information being indicative of the characteristics of the application service of the suspended call (col. 7, lines 7- 67).

Regarding claims 14-16, Solondz discloses a mobile communication system (fig. 1), comprising: a first mobile station (106 of fig. 1) with a call in progress to a base station (108, 124, 134 of fig. 1); a second mobile station (120 or 122 of fig. 1) that transmits a call set-up request to the base station (108, 124, 134 of fig. 1; col. 1, lines 49-67); and the base station (108, 124, 134 of fig. 1) for, if the base station does not have enough available resources to accommodate the requested call (col. 3, line 49- col. 4, line 67);, and if a service level of the requested call is higher than a service level of the call in progress of the first mobile station (col. 5, lines 6-65; col. 7, line 18- col. 8, line 37).

However, Solondz does not specifically disclose the steps of suspending the call in progress from the first mobile station and for servicing the requested call of the second mobile station; wherein the base station resumes the suspended call of the first mobile station if the base station secures enough resources to resume the suspended call of the first mobile station.

On the other hand, Virtanen, from the same field of endeavor, discloses a method and apparatus for re-establishing an interrupted data packet call on a channel between two transceiving devices in a telecommunications system. This method allows a data packet call to be re-established in a rapid manner while using less signaling resources required to establish a call from an initial state. Call re-establishment is accomplished by using a call re-establishment message that includes the necessary information to re-establish the call. After receiving the re-establishment request message, the base station uses the information included in the request message to determine the identity of the mobile station and to retrieve the saved information that

is necessary for call re-establishment, and re-establishes the physical connection between the mobile station and base station (col. 3, line 40- col. 5, line 15; col. 8, line 33- col. 10, line 62).

Ericksson et al also discloses a method and system used in a mobile telecommunications network for reconnecting at least one of a plurality of low priority calls that were disconnected due to preemption by high priority calls. The system includes a controller coupled to the queue for determining whether a traffic was located within a predetermined amount of time for use by the low priority call. If the traffic channel was located within the predetermined amount of time, then the controller will remove the low priority from the queue and automatically reconnect the disconnected call using the located traffic channel (col. 2, lines 26- 56; col. 4, line 8- col. 5, line 30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Ericksson to the modified system of Virtanen and Solondz in order to reconnect automatically a disconnected data transmission call without interrupting a data transmission call.

Regarding claim 17, Solondz as modified discloses a mobile communication system (fig. 1), wherein the base station determines the service level of the requested call by considering a mobile station priority of the second mobile station and a service priority of the requested call of the second mobile station (col. 5, line 6- col. 6, line 54).

Regarding claim 18, Solondz as modified discloses a mobile communication system (fig. 1), wherein parameters for establishing a physical channel and service option information are stored in the first mobile station, said service option information being indicative of the characteristics of the application service of the suspended call (col. 7, lines 7- 67).

Regarding claims 19-21, Solondz discloses a mobile communication system, comprising:

at least one first mobile station (106 of fig. 1) with a call in progress to a base station (108, 124, 134 of fig. 1); a second mobile station (120 or 122 of fig. 1) that transmits a call set-up request to the base station (col. 1, lines 49-67); and the base station (108, 124, 134 of fig. 1) for, if a service level of the requested call is higher than a service level of the at least one call in progress of the at least one first mobile station, and if the base station (108, 124, 134 of fig. 1) does not have enough available resource to accommodate the requested call (col. 3, line 49- col. 4, line 67; col. 5, lines 6-65;col. 7, line 18- col. 8, line 37).

However, Solondz does not specifically disclose the steps of suspending the at least one call in progress with a lower service level, and for servicing the requested call of the second mobile station; wherein the base station resumes at least one suspended call of at least one first mobile station with a suspended call, if the base station secures enough resources to resume the at least one suspended call of the at least one first mobile station with a suspended call.

On the other hand, Virtanen, from the same field of endeavor, discloses a method and apparatus for re-establishing an interrupted data packet call on a channel between two transceiving devices in a telecommunications system. This method allows a data packet call to be re-established in a rapid manner while using less signaling resources required to establish a call from an initial state. Call re-establishment is accomplished by using a call re-establishment message that includes the necessary information to re-establish the call. After receiving the re-establishment request message, the base station uses the information included in the request message to determine the identity of the mobile station and to retrieve the saved information that is necessary for call re-establishment, and re-establishes the physical connection between the mobile station and base station (col. 3, line 40- col. 5, line 15; col. 8, line 33- col. 10, line 62).

Ericksson et al also discloses a method and system used in a mobile telecommunications network for reconnecting at least one of a plurality of low priority calls that were disconnected due to preemption by high priority calls. The system includes a controller coupled to the queue for determining whether a traffic was located within a predetermined amount of time for use by the low priority call. If the traffic channel was located within the predetermined amount of time, then the controller will remove the low priority from the queue and automatically reconnect the disconnected call using the located traffic channel (col. 2, lines 26- 56; col. 4, line 8- col. 5, line 30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the technique of Ericksson to the modified system of Virtanen and Solondz in order to reconnect automatically a disconnected data transmission call without interrupting a data transmission call.

Regarding claim 22, Solondz as modified discloses a mobile communication system, comprising: at least one first mobile station (106 of fig. 1) with a call in progress to a base station (108, 124, 134 of fig. 1); wherein the base station (108, 124, 134 of fig. 1) determines the service level of the requested call by considering a mobile station priority of the second mobile station and a service priority of the requested call of the second mobile station (col. 5, line 6- col. 6, line 54).

Regarding claim 23, Solondz as modified discloses a mobile communication system, comprising: at least one first mobile station (106 of fig. 1) with a call in progress to a base station (108, 124, 134 of fig. 1); wherein parameters for establishing a physical channel and service option information are stored in the at least one first mobile station, said service option

information being indicative of the characteristics of the application service of the at least one suspended call (col. 7, lines 7- 67).

Response to Arguments

2. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marceau Milord whose telephone number is 703-306-3023. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 703-308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MARCEAU MILORD

Marceau Milord

Examiner

Art Unit 2682